2. REFERENCES

The *ANSI/TIA/EIA 41* recommendations are:

- ANSI/TIA/EIA 41.1, *Cellular Radiotelecommunications Intersystem Operations: Functional Overview*
- ANSI/TIA/EIA 41.2, *Cellular Radiotelecommunications Intersystem Operations: Intersystem Handoff Information Flows*
- ANSI/TIA/EIA 41.3, *Cellular Radiotelecommunications Intersystem Operations: Automatic Roaming Information Flows*
- ANSI/TIA/EIA 41.4, *Cellular Radiotelecommunications Intersystem Operations: Operations, Administration, and Maintenance Information Flows*
- ANSI/TIA/EIA 41.5, *Cellular Radiotelecommunications Intersystem Operations: Signaling Protocols*
- ANSI/TIA/EIA 41.6, *Cellular Radiotelecommunications Intersystem Operations: Signaling Procedures*

The *TIA/EIA/IS-93* recommendations are:

- TIA/EIA/IS-93-0, *Cellular Radio Telecommunications Ai - Di Interfaces*

The *ANSI J-STD-023* recommendations are:

- ANSI J-STD-023, *PCN to PCN Intersystem Operations based on PCS1900 Standard, approved for publication.*

The *ANSI J-STD-024* recommendations are:

- ANSI J-STD-024, *Personal Communication Services, SS7 based A-interface Standard, approved for publication.*

3. Functional Overview

3.1 DEFINITIONS

Emergency Services Network Entity

An entity in the emergency services network which serves as the point of interface to an MSC.

Public Safety Answering Point

A PSAP is an emergency services network element that is responsible for answering emergency calls.

Roamer Port

A terminating directory number supporting call delivery to mobile stations.

Selective Router

A Selective Router is an emergency services network element that is responsible for routing incoming emergency calls to the appropriate PSAP, and may be responsible for other functions, such as redirecting calls from a primary PSAP to a secondary PSAP. The specification of Selective Router functionality is outside the scope of this document.

Tandem

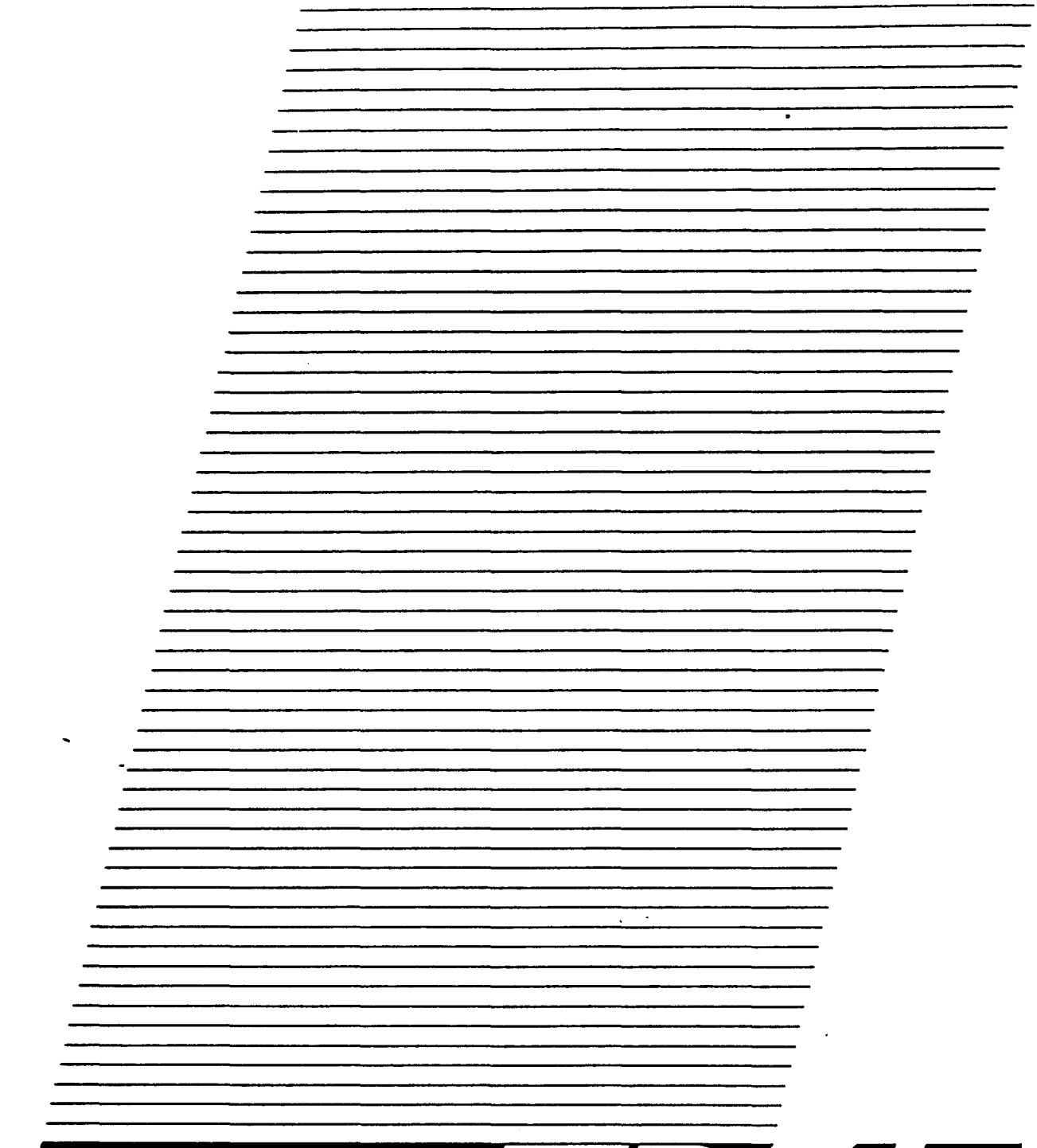
A Tandem switch is an intermediate switch (e.g., Access Tandem) that has normal PSTN routing capabilities, but does not have selective routing capability.

3.2 DOCUMENTATION CONVENTIONS

Change marks, such as strikethrough and underscore marks, indicate changes against the document being modified by a given section.

4. Symbols and Abbreviations

ANI	Automatic Number Identification
CM	Connection Management
ESNE	Emergency Services Network Entity
ESRD	EmergencyServicesRoutingDigits parameter
MDN	MobileDirectoryNumber parameter
O	Optional
PCS	Personal Communications System
PCSC	PCS Switching Center
POI	Point of Interface
PS	Personal Station
PSAP	Public Safety Answering Point
R	Required
SHH	SpecialHandling parameter
S/R	Selective Router
TDD/TTY	Telecommunications Device for the Deaf/Text Telephony



Enhanced Emergency Services

PN-3581.2

PSAP Perspective

Ballot Version

ENHANCED EMERGENCY SERVICES: PSAP PERSPECTIVE

LIST OF FIGURES

None

LIST OF TABLES

None

FOREWORD

This Foreword is not part of this Interim Standard.

This is one of a series of recommendations entitled

"ENHANCED EMERGENCY SERVICES"

which provides a solution for the limited capabilities of wireless Enhanced Emergency Services. These capabilities include:

- provision of base station, cellsite or sector identification information
- subscriber identification
- callback
- reconnect

The recommendations included in this series are:

- PN-3581.1, Enhanced Emergency Services: Functional Overview
- PN-3581.2, Enhanced Emergency Services: PSAP Perspective
- PN-3581.3, Enhanced Emergency Services: Intersystem Information Flows
- PN-3581.4, Enhanced Emergency Services: *ANSI/TIA/EIA 41* Stage 2 Modifications
- PN-3581.5, Enhanced Emergency Services: *ANSI J-STD-023* Stage 2 Modifications
- PN-3581.6, Enhanced Emergency Services: *TIA/EIA/IS-93* Modifications
- PN-3581.7, Enhanced Emergency Services: *ANSI/TIA/EIA 41* Stage 3 Modifications
- PN-3581.8, Enhanced Emergency Services: *ANSI J-STD-024* Modifications

REVISION HISTORY

Revision	Date	Remarks
0	????	Initial Publication
A		
B		

NOTE

The numbering system of this series of Interim Standards varies from normal TIA/EIA practice. The unique numbering system assigned to these documents is intended to reflect their hierarchical structure.

1. INTRODUCTION

1.1 OBJECTIVE

This document presents recommendations for the implementation of Enhanced Emergency Services from the PSAP's perspective.

1.2 SCOPE

This document provides a solution for the handling of emergency calls as it pertains to the PSAP's perspective.

1.3 ORGANIZATION

This document is organized by the following sections:

- Section 1, entitled "Introduction," provides introductory information for this Interim Standard.
- Section 2, entitled "References," lists the normative and informative references for this Interim Standard.
- Section 3, entitled "Terminology," lists the definitions, symbols, abbreviations, and other documentation conventions used in this Interim Standard.
- Section 4, entitled "PSAP Perspective," defines the PSAP Perspective as it pertains to the handling of Enhanced Emergency Services.

2. REFERENCES

The *ANSI/TIA/EIA 41* recommendations are:

- ANSI/TIA/EIA 41.1, *Cellular Radiotelecommunications Intersystem Operations: Functional Overview*
- ANSI/TIA/EIA 41.2, *Cellular Radiotelecommunications Intersystem Operations: Intersystem Handoff Information Flows*
- ANSI/TIA/EIA 41.3, *Cellular Radiotelecommunications Intersystem Operations: Automatic Roaming Information Flows*
- ANSI/TIA/EIA 41.4, *Cellular Radiotelecommunications Intersystem Operations: Operations, Administration, and Maintenance Information Flows*
- ANSI/TIA/EIA 41.5, *Cellular Radiotelecommunications Intersystem Operations: Signaling Protocols*
- ANSI/TIA/EIA 41.6, *Cellular Radiotelecommunications Intersystem Operations: Signaling Procedures*

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3. TERMINOLOGY

3.1 DEFINITIONS

Refer to IS-911.1.

3.2 SYMBOLS AND ABBREVIATIONS

Refer to IS-911.1.

4. PSAP Perspective

4.1 Emergency Services (9-1-1) Call to the PSAP

This feature allows a Public Safety Answering Point (PSAP) to receive a call. The PSAP should receive an indication if the call was initiated by an MS. If so, the MS's current location may be supplied to the PSAP. A callback number may also be supplied to the PSAP.

Applicability to Emergency Services

(9-1-1) is applicable to voice and Telecommunications Device for the Deaf/Text Telephony (TDD/TTY).

4.1.1 Normal Procedures With Successful Outcome

Upon answering the call, the PSAP shall be able to communicate with the caller over a normal voice connection.

After establishment of the call with the PSAP, the MS may allow the party/parties previously put on "hold" to join the conversation.

When the 9-1-1 call is released, the subscriber's normal calling capabilities are restored. Release occurs when either the subscriber or PSAP disconnects. Either the PSAP or the MS may release the call.

After the 9-1-1 call is released, the PSAP should be able to call back the caller, as described in Emergency Services Call from the PSAP (PSAPCall).

4.1.2 Exception Procedures or Unsuccessful Outcome

Emergency Call Reconnect

In the event of a loss of radio contact with the MS, the PSAP may receive an indicator that the network is attempting to re-establish (i.e., reconnect) the call. Low tone (e.g., 480 Hz plus 620 Hz at -24 dBm0/frequency) may be applied for this purpose.

If the network fails to re-establish the call, the PSAP may be provided a reorder tone.

4.1.3 Interactions With Other Services

Call Hold

The PSAP should not be placed on hold by the controlling MS.

Emergency Services (9-1-1) Call to the PSAP

Not applicable.

Emergency Services Call from the PSAP (PSAPCall)

None Identified.

Three-Way Calling

The controlling MS should not be able to disconnect the PSAP from the call. Once the three-way call phase is reached, further flashes will be ignored.

4.2 Emergency Services Call from the PSAP (PSAPCall)

Emergency Services Call from the PSAP (PSAPCall) permits a Public Safety Answering Point (PSAP) to call an MS. This feature may be used to call back an MS that previously dialed 9-1-1.

PSAPCall shall also provide a method to access the 9-1-1 caller even if the caller subsequently roams to another system. This access method shall be available at any time and may be used for investigative purposes.

When any form of PSAPCall is not possible, the PSAP shall be so informed.

Applicability to Emergency Services

(9-1-1) is applicable to voice and TDD/TTY.

4.2.1 Normal Procedures With Successful Outcome

Invocation

PSAPCall is invoked by the PSAP dialing a subscriber's number. This may be accessed through one of the following access methods:

a. Mobile Directory Number. The subscriber's individual Directory Number is used to call back the subscriber. There is no time limit to this type of access, and it may access the MS when it roams to other systems. This type of access may be used for investigative purposes.

b. Two-stage serving system based number. A "normal" roamer port is accessed through a directory number. This access method typically requires that the subscriber be present in the serving system.

Method "a" shall always be supplied, and it may be used by the PSAP after one of the serving system access methods fails or as the initial access method. Method "b" may be supplied at the serving system's option.

Normal Operation With Successful Outcome

PSAPCall may be invoked at any time, and is handled by the MS's system as any other "normal" call (i.e., the activated termination features are invoked).

4.2.2 Exception Procedures or Unsuccessful Outcome

Invocation

An MS handles an incoming PSAPCall as any other incoming call. The MS may have previously activated call termination features (i.e., Call Forwarding Unconditional, Call Forwarding Busy, Do Not Disturb) that will be executed upon receipt of the PSAPCall.

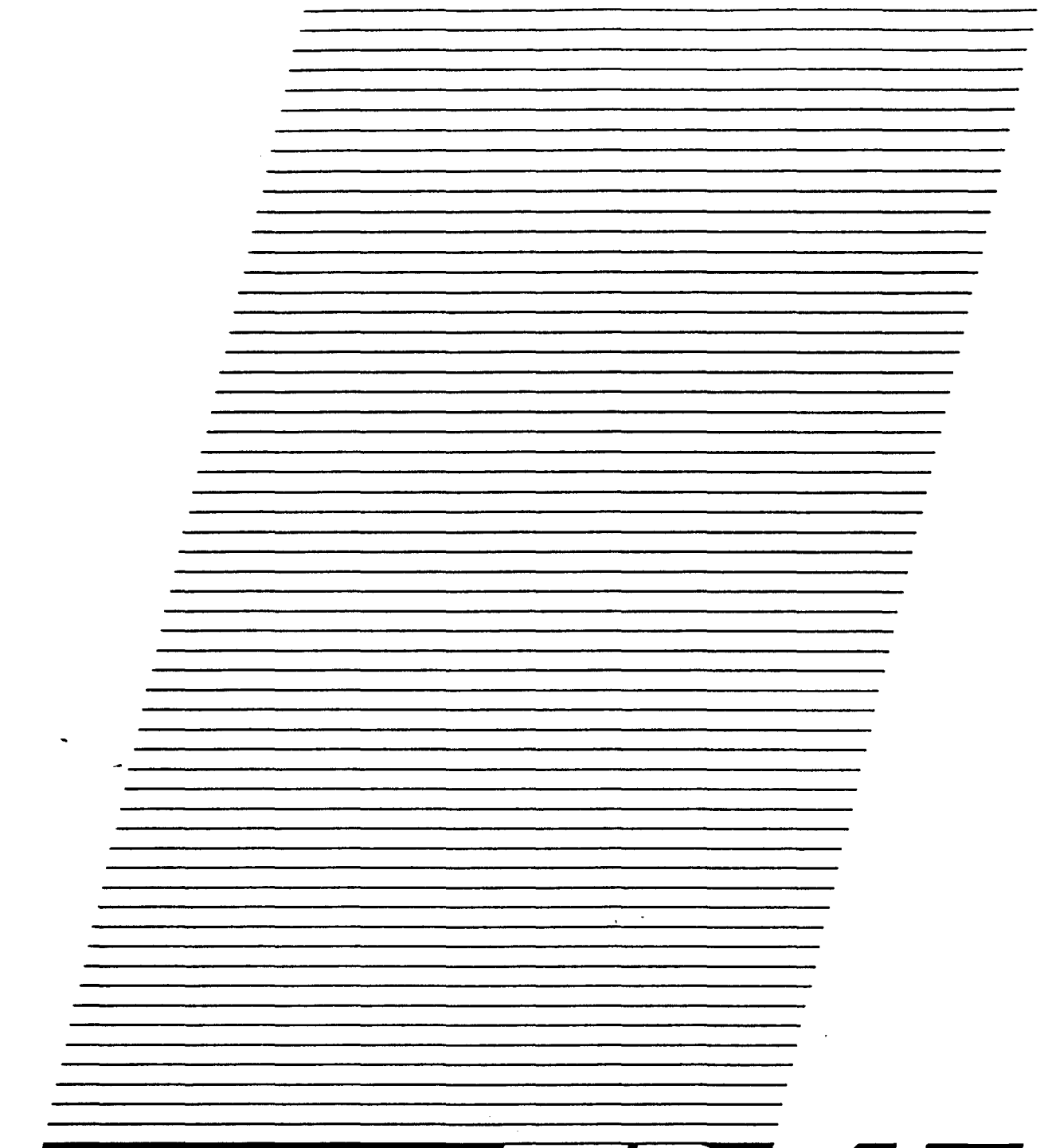
4.2.3 Interactions With Other PSAP Services

Emergency Services (9-1-1)

None identified.

Emergency Services Call from the PSAP (PSAPCall)

Not applicable.



TR45

Enhanced Emergency Services

PN-3581.3

Emergency Services Stage 2

Ballot Version

ENHANCED EMERGENCY SERVICES: EMERGENCY SERVICES STAGE 2

LIST OF FIGURES

LIST OF TABLES

None

FOREWORD

This Foreword is not part of this Interim Standard.

This is one of a series of recommendations entitled

"ENHANCED EMERGENCY SERVICES"

which provides a solution for the limited capabilities of wireless Enhanced Emergency Services. These capabilities include:

- provision of base station, cellsite or sector identification information
- subscriber identification
- callback
- reconnect

The recommendations included in this series are:

- PN-3581.1, Enhanced Emergency Services: Functional Overview
- PN-3581.2, Enhanced Emergency Services: PSAP Perspective
- PN-3581.3, Enhanced Emergency Services: Emergency Services Stage 2
- PN-3581.4, Enhanced Emergency Services: *ANSI/TIA/EIA 41* Stage 2 Modifications
- PN-3581.5, Enhanced Emergency Services: *ANSI J-STD-023* Stage 2 Modifications
- PN-3581.6, Enhanced Emergency Services: *TIA/EIA/IS-93* Modifications
- PN-3581.7, Enhanced Emergency Services: *ANSI/TIA/EIA 41* Stage 3 Modifications
- PN-3581.8, Enhanced Emergency Services: *ANSI J-STD-024* Modifications

REVISION HISTORY

Revision	Date	Remarks
0	????	Initial Publication
A		
B		

NOTE

The numbering system of this series of Interim Standards varies from normal TIA/EIA practice. The unique numbering system assigned to these documents is intended to reflect their hierarchical structure.

1. INTRODUCTION

1.1 OBJECTIVE

This document presents recommendations for the implementation of intersystem messaging as it pertains to the support of Enhanced Emergency Services.

1.2 SCOPE

This document provides a solution for the intersystem messaging necessary to support Enhanced Emergency Services.

1.3 ORGANIZATION

This document is organized by the following sections:

- Section 1, entitled "Introduction," provides introductory information for this Interim Standard.
- Section 2, entitled "References," lists the normative and informative references for this Interim Standard.
- Section 3, entitled "Terminology," lists the definitions, symbols, abbreviations, and other documentation conventions used in this Interim Standard.
- Section 4, entitled "Emergency Services Stage 2," defines the intersystem messaging between the wireless switching systems and the Emergency Services network as it pertains to the handling of Enhanced Emergency Services.

2. REFERENCES

The *ANSI/TIA/EIA 41* recommendations are:

- ANSI/TIA/EIA 41.1, *Cellular Radiotelecommunications Intersystem Operations: Functional Overview*
- ANSI/TIA/EIA 41.2, *Cellular Radiotelecommunications Intersystem Operations: Intersystem Handoff Information Flows*
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3. TERMINOLOGY

3.1 DEFINITIONS

Refer to IS-911.1.

3.2 SYMBOLS AND ABBREVIATIONS

Refer to IS-911.1.